

## Remarks

### I. Status of the Application and Claims

At the time that the present Office Action was mailed, the claims pending in the application were claims 61-80. No claims have been cancelled or added herein.

### II. The Amendments

No amendments have been made herein.

## The Rejections

### I. Rejection of Claims Under 35 USC § 103

#### Allegations

On pages 2-3 and 6-7 of the Office Action, the Examiner maintains a rejection of claims 76-79 under 35 USC §103 as being obvious over Joachimi, *et al.* (US 2003/0130381), in light of Kondo (US 5,830,568). In addition, claims 61-75 and 80 are rejected based on Joachimi and Kondo in combination with Wissman (US 2004/0030384).

Applicants respectfully traverse these rejections. The discussion below is intended to apply equally to all rejected claims and to address comments made by the Examiner in response to Applicants' previous arguments.

#### Arguments

Applicants submit that there is nothing in the cited references that would lead one of skill in the art to the inventions that are claimed in the present application. The elements that are of particular importance in distinguishing the references from the claims concern the metal oxides or doped metal oxides that are present in plastics. Applicants' claims require that these: a) constitute 0.0001 to 0.01 weight-percent of the plastic material; b) have a particle size of 1 to 500 nm and c) be used in such a way as to have a material that is transparent and laser weldable.

In order to establish *prima facie* obviousness, the Examiner has argued that the teachings of Joachimi and Kondo, taken together, would lead one of skill in the art to select particles with a size within the recited range (1 to 500 nm) and use them at a concentration

that is low enough to maintain transparency but high enough to impart laser weldability. However, since Joachimi does not use metal oxides as light absorbing agents at all (see, *e.g.*, paragraph [0103]), it does not teach either the required particle sizes or the required particle concentration. This appears to be also true with respect to the Wissman reference. Therefore, in order to establish *prima facie* obviousness, both of these concepts must be taught by Kondo.

Kondo teaches a range of particles that are up to 2  $\mu\text{m}$  in diameter. This includes a substantial group of particles (particles with a diameter greater than 500 nm and less than 2000 nm) that fall outside the scope of Applicants' claims. Kondo teaches a concentration range of particles of 0.01-10% (see col. 3, lines 19-56). In this entire range, covering concentrations differing by a factor of 1000, there is only a single concentration (0.01%) that is also in the range recited in the present claims. Apart from there being a motive to combine the Joachimi and Kondo references (discussed below), there must also be some motivation to select a subset of the particles taught by Kondo with diameters of 1 to 500 and to select the single concentration (0.01%) from the possibilities available. The Examiner has not pointed to any teaching that would lead one of skill in the art to select such a combination and Applicants submit that no such teachings exist. Thus, to the extent that Kondo discloses the particle size and concentration elements of Applicants' claims, it only does so as a very small part of a much larger genus.<sup>1</sup>

Applicants submit that obviousness under these circumstances should be governed by the principles set forth *In re Baird* (16 F.3d 380 (Fed. Cir. 1994), discussed in MPEP 2144.08).<sup>2</sup> This case suggests that a claimed species or subgenus remains patentable despite the existence of a reference disclosing a broader genus, provided two criteria are met: a) the prior art genus is much broader in scope than the claimed species or subgenus; and b) the relevant prior art reference does not have teachings that would lead one of skill in the art to select the claimed genus or subgenus from the options available. Both of these requirements appear to be met for ranges disclosed in Kondo. The particle sizes specified by Applicants' claims constitute a small portion of the range of particle diameters taught by Kondo and there

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<sup>1</sup> As discussed earlier in the text, the Joachimi and Wissman references do not disclose these elements at all.

<sup>2</sup> In the present Office Action, the Examiner seems to suggest that a mere overlap of ranges is dispositive with respect to obviousness. Based upon *Baird* and the discussion in MPEP 2144.08, Applicants believe that this is not the case.

is only a single concentration in the entire range disclosed by Kondo that would fall within the scope of the claims. Since there are no teachings that would lead one of skill in the art to select the required particle sizes and concentration from the many options available, Applicants submit that, under *In re Baird*, the present claims should be patentable.

Applicants have also argued that a reasonable motivation for combining the teachings of Joachimi and Kondo has not been established because there is no clear relationship between the production of laminated glass (Kondo) and the production of laser weldable plastic compositions (Joachimi). Applicants argued that “To the extent that visually transparent compositions are disclosed in Joachimi, there is no indication of a need for different, or improved, laser absorbing agents.” The Examiner addresses these arguments as follows:

In response, while the molded parts of Joachimi et al are to be pigmented and/or colored and therefore will not be ~100% transmissive, the transparency motivation gleaned from Kondo is still relevant since one of ordinary skill would understand the importance of using an additive that does not change the calculated light absorptivity of the final composition. A user may intend on a certain transparency/color based on the desired pigment composition and if an IR absorptive particle is used that changes these light properties, then the user may have to reformulate the pigment package to compensate for the light characteristics of said IR absorptive particle.

The Joachimi reference does indicate that compositions contain at least one IR absorbing component that absorbs weakly, or not at all, in the visible spectrum (see paragraph 103). However, numerous materials are listed in the reference (see paragraphs 103-108) and there is no indication that these are not completely suitable to the objectives of the disclosed methods. Moreover, the Kondo reference is not concerned with laser welding at all and it is therefore not clear what basis one of skill in the art would have for thinking that the particles disclosed in this reference might be a suitable replacement for the laser absorbing agents disclosed in Joachimi.

## **II. Double Patenting Rejections**

On pages 4-5 of the Office Action, all claims are provisionally rejected on non-statutory double patenting grounds based upon application 10/544,041 (pending). Since this is a provisional double patenting rejection, Applicants would like to defer consideration until

such time as the claims are otherwise allowable. Further prosecution in the relevant cases could potentially obviate the rejection.

### **Conclusion**

In light of the considerations above, Applicants respectfully request that the Examiner reconsider and withdraw the rejections that have been made. If, in the opinion of the Examiner, a phone call may help to expedite the prosecution of this application, the Examiner is invited to call Applicants' undersigned attorney at (240)683-6165.

Respectfully submitted,  
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